

SEQUENCE LISTING

<110> The Research Foundation for Microbial diseases of Osaka University

<120> Japanese Encephalitis

<130> P98AF308-2

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<170> PatentIn Ver. 2.0

<210> 1

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<212> DNA

<213> Japanese encephalitis virus

<220>

<221> CDS

<222> (1)..(1500)

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Gly Ala Thr Trp Val Asp Leu Val Leu Glu Gly Asp Ser Cys Leu Thr
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atc atg gca aac gac aaa cca aca cta gat gtc cgc atg atc aac att 144
Ile Met Ala Asn Asp Lys Pro Thr Leu Asp Val Arg Met Ile Asn Ile
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gaa gct agc caa ctt gct gaa gtc agg agt tac tgc tat cac gct tca 192
Glu Ala Ser Gln Leu Ala Glu Val Arg Ser Tyr Cys Tyr His Ala Ser
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gtc act gac att tca acg gtg gct cga tgc ccc acg act gga gaa gcc 240
Val Thr Asp Ile Ser Thr Val Ala Arg Cys Pro Thr Thr Gly Glu Ala
65 70 75 80

cac aac gag aaa cgt gct gac agc agc tac gtg tgc aaa caa ggc ttt 288
His Asn Glu Lys Arg Ala Asp Ser Ser Tyr Val Cys Lys Gln Gly Phe
85 90 95

act gac cgc gga tgg gga aat gga tgt gga ctt ttc ggg aaa gga agc 336
 Thr Asp Arg Gly Trp Gly Asn Gly Cys Gly Leu Phe Gly Lys Gly Ser
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att gac aca tgc gca aaa ttt tct tgt acc agt aag gcc att gga aga 384
 Ile Asp Thr Cys Ala Lys Phe Ser Cys Thr Ser Lys Ala Ile Gly Arg
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atg atc caa cca gag aac atc aag tac gag gtt ggc ata ttc gtg cac 432
 Met Ile Gln Pro Glu Asn Ile Lys Tyr Glu Val Gly Ile Phe Val His
 130 135 140

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 Gly Thr Thr Thr Ser Glu Asn His Gly Asn Tyr Ser Ala Gln Val Gly
 145 150 155 160

gcg tct caa gca gca aag ttt act gta act cca aac gct ccc tca ata 528
 Ala Ser Gln Ala Ala Lys Phe Thr Val Thr Pro Asn Ala Pro Ser Ile
 165 170 175

acc ctc aag ctt ggt gat tat gga gag gtc aca ctg gat tgt gaa cca 576
 Thr Leu Lys Leu Gly Asp Tyr Gly Glu Val Thr Leu Asp Cys Glu Pro
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 Arg Ser Gly Leu Asn Thr Glu Ala Phe Tyr Val Met Thr Val Gly Ser
 195 200 205

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 Lys Ser Phe Leu Val His Arg Glu Trp Phe His Asp Leu Ser Leu Pro
 210 215 220

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 225 230 235 240

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 Glu Phe Glu Glu Ala His Ala Thr Lys Gln Ser Val Val Ala Leu Gly
 245 250 255

tca cag gag gga ggc ctc cat caa gcg ttg gca gga gcc atc gtg gtg 816
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 260 265 270

gag tac tcg agc tca gtg aag tta aca tca ggt cac ctg aaa tgc agg 864
 Glu Tyr Ser Ser Ser Val Lys Leu Thr Ser Gly His Leu Lys Cys Arg
 275 280 285

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aca gaa aaa ttc tcg ttc gcg aaa aat cca gcg gac aca ggc cat gga 960
 Thr Glu Lys Phe Ser Phe Ala Lys Asn Pro Ala Asp Thr Gly His Gly
 305 310 315 320

aca gtt gtc att gag ctc aca tat tct gga agc gat ggc tcc tgt aaa 1008
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 325 330 335

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 Ile Pro Ile Val Ser Val Ala Ser Leu Asn Asp Met Thr Pro Val Gly
 340 345 350

agg ctg gta aca gta aac ccc ttc gtt gcg aca tct agc tcc aac tca 1104
 Arg Leu Val Thr Val Asn Pro Phe Val Ala Thr Ser Ser Ser Asn Ser
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 Lys Val Leu Val Glu Met Glu Pro Pro Phe Gly Asp Ser Tyr Ile Val
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 385 390 395 400

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 420 425 430

gta ttc aac tcc ata ggg aaa gct gtt cac caa gta ttt ggc ggt gca 1344
 Val Phe Asn Ser Ile Gly Lys Ala Val His Gln Val Phe Gly Gly Ala
 435 440 445

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Ile Met Ala Asn Asp Lys Pro Thr Leu Asp Val Arg Met Ile Asn Ile
 35 40 45

Glu Ala Ser Gln Leu Ala Glu Val Arg Ser Tyr Cys Tyr His Ala Ser
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Val Thr Asp Ile Ser Thr Val Ala Arg Cys Pro Thr Thr Gly Glu Ala
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His Asn Glu Lys Arg Ala Asp Ser Ser Tyr Val Cys Lys Gln Gly Phe
 85 90 95

Thr Asp Arg Gly Trp Gly Asn Gly Cys Gly Leu Phe Gly Lys Gly Ser
 100 105 110

Ile Asp Thr Cys Ala Lys Phe Ser Cys Thr Ser Lys Ala Ile Gly Arg
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Met Ile Gln Pro Glu Asn Ile Lys Tyr Glu Val Gly Ile Phe Val His
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Gly Thr Thr Thr Ser Glu Asn His Gly Asn Tyr Ser Ala Gln Val Gly
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Ala Ser Gln Ala Ala Lys Phe Thr Val Thr Pro Asn Ala Pro Ser Ile
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Thr Leu Lys Leu Gly Asp Tyr Gly Glu Val Thr Leu Asp Cys Glu Pro
180 185 190

Arg Ser Gly Leu Asn Thr Glu Ala Phe Tyr Val Met Thr Val Gly Ser
195 200 205

Lys Ser Phe Leu Val His Arg Glu Trp Phe His Asp Leu Ser Leu Pro
210 215 220

Trp Thr Ser Pro Ser Ser Thr Ala Trp Arg Asn Arg Glu Leu Leu Met
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Glu Phe Glu Glu Ala His Ala Thr Lys Gln Ser Val Val Ala Leu Gly
245 250 255

Ser Gln Glu Gly Gly Leu His Gln Ala Leu Ala Gly Ala Ile Val Val
260 265 270

Glu Tyr Ser Ser Ser Val Lys Leu Thr Ser Gly His Leu Lys Cys Arg
275 280 285

Leu Lys Met Asp Lys Leu Ala Leu Lys Gly Thr Thr Tyr Gly Met Cys
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Thr Glu Lys Phe Ser Phe Ala Lys Asn Pro Ala Asp Thr Gly His Gly
305 310 315 320

Thr Val Val Ile Glu Leu Thr Tyr Ser Gly Ser Asp Gly Ser Cys Lys
325 330 335

Ile Pro Ile Val Ser Val Ala Ser Leu Asn Asp Met Thr Pro Val Gly
340 345 350

Arg Leu Val Thr Val Asn Pro Phe Val Ala Thr Ser Ser Ser Asn Ser
355 360 365

Lys Val Leu Val Glu Met Glu Pro Pro Phe Gly Asp Ser Tyr Ile Val
370 375 380

Val Gly Arg Gly Asp Lys Gln Ile Asn His His Trp His Lys Ala Gly
385 390 395 400

Ser Thr Leu Gly Lys Ala Phe Ser Thr Thr Leu Lys Gly Ala Gln Arg
405 410 415

Leu Ala Ala Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser Ile Gly Gly
420 425 430

002090-40455560

Val Phe Asn Ser Ile Gly Lys Ala Val His Gln Val Phe Gly Gly Ala
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Asn Val His Ala
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<212> DNA

<213> Japanese encephalitis virus

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<221> CDS

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Gly Ala Thr Trp Val Asp Leu Val Glu Gly Asp Ser Cys Leu Thr
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atc atg gca aac gac aaa cca aca ttg gac gtc cgc atg atc aac atc 144
Ile Met Ala Asn Asp Lys Pro Thr Leu Asp Val Arg Met Ile Asn Ile
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gaa gct agc caa ctt gct gag gtc aga agt tac tgc tat cat gct tca 192
Glu Ala Ser Gln Leu Ala Glu Val Arg Ser Tyr Cys Tyr His Ala Ser
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gtc act gac atc tcg acg gtg gct cgg tgc ccc acg act gga gaa gcc 240
Val Thr Asp Ile Ser Thr Val Ala Arg Cys Pro Thr Thr Gly Glu Ala
65 70 75 80

cac aac gag aag cga gct gat agt agc tat gtg tgc aaa caa ggc ttc 288
His Asn Glu Lys Arg Ala Asp Ser Ser Tyr Val Cys Lys Gln Gly Phe
85 90 95

act gal cgt ggg tgg ggc aac gga tgt gga ctt ttc ggg aag gga agt	336
Thr Asp Arg Gly Trp Gly Asn Gly Cys Gly Leu Phe Gly Lys Gly Ser	
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Ile Asp Thr Cys Ala Lys Phe Ser Cys Thr Arg Lys Ala Ile Gly Arg	
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Ala Ser Gln Ala Ala Lys Phe Thr Val Thr Pro Asn Ala Pro Ser Ile	
165 170 175	
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Ser Gln Glu Gly Gly Leu His Gln Ala Leu Ala Gly Ala Ile Val Val	
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275 280 285	

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325 330 335	
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Val Gly Arg Gly Asp Lys Gln Ile Asn His His Trp Tyr Lys Ala Gly	
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465 470 475 480	

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<212> PRT

<213> Japanese encephalitis virus

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Glu Ala Ser Gln Leu Ala Glu Val Arg Ser Tyr Cys Tyr His Ala Ser
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Val Thr Asp Ile Ser Thr Val Ala Arg Cys Pro Thr Thr Gly Glu Ala
 65 70 75 80

His Asn Glu Lys Arg Ala Asp Ser Ser Tyr Val Cys Lys Gln Gly Phe
 85 90 95

Thr Asp Arg Gly Trp Gly Asn Gly Cys Gly Leu Phe Gly Lys Gly Ser
 100 105 110

Ile Asp Thr Cys Ala Lys Phe Ser Cys Thr Arg Lys Ala Ile Gly Arg
 115 120 125

Thr Ile Gln Pro Glu Asn Ile Lys Tyr Glu Val Gly Ile Phe Val His
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Gly Thr Thr Thr Ser Glu Asn His Gly Asn Tyr Ser Ala Gln Val Gly
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Ala Ser Gln Ala Ala Lys Phe Thr Val Thr Pro Asn Ala Pro Ser Ile
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Thr Leu Lys Leu Gly Asp Tyr Gly Glu Val Thr Leu Asp Cys Glu Pro
180 185 190

Arg Ser Gly Leu Asn Thr Glu Ala Phe Tyr Val Met Thr Val Gly Ser
195 200 205

Lys Ser Phe Leu Val His Arg Glu Trp Phe His Asp Leu Ala Leu Pro
210 215 220

Trp Thr Pro Pro Ser Ser Thr Ala Trp Arg Asn Arg Glu Leu Leu Met
225 230 235 240

Glu Phe Glu Glu Ala His Ala Thr Lys Gln Ser Val Val Ala Leu Gly
245 250 255

Ser Gln Glu Gly Gly Leu His Gln Ala Leu Ala Gly Ala Ile Val Val
260 265 270

Glu Tyr Ser Ser Ser Val Lys Leu Thr Ser Gly His Leu Lys Cys Arg
275 280 285

Leu Lys Met Asp Lys Leu Ala Leu Lys Gly Thr Thr Tyr Gly Met Cys
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Thr Glu Lys Phe Ser Phe Ala Lys Asn Pro Ala Asp Thr Gly His Gly
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Ile Pro Ile Val Ser Val Ala Ser Leu Asn Asp Met Thr Pro Val Gly
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Arg Leu Val Thr Val Asn Pro Phe Val Ala Thr Ser Ser Ala Asn Ser
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Lys Val Leu Val Glu Met Glu Pro Pro Phe Gly Asp Ser Tyr Ile Val
370 375 380

Val Gly Arg Gly Asp Lys Gln Ile Asn His His Trp Tyr Lys Ala Gly
385 390 395 400

Ser Thr Leu Gly Lys Ala Phe Ser Thr Thr Leu Lys Gly Ala Gln Arg
405 410 415

Leu Ala Ala Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser Ile Gly Gly
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Val Phe Asn Ser Ile Gly Lys Ala Val His Gln Val Phe Gly Gly Ala
435 440 445

Phe Arg Thr Leu Phe Gly Gly Met Ser Trp Ile Thr Gln Gly Leu Met
450 455 460

Gly Ala Leu Leu Leu Trp Met Gly Ile Asn Ala Arg Asp Arg Ser Ile
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Asn Val His Ala
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